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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/068,857	02/11/2002	Dominique Loubinoux	4068-040	8967
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OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314				
			EXAMINER	
			AFTERGUT, JEFF H	
			ART UNIT	PAPER NUMBER
			1733	

DATE MAILED: 08/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/068,857

Applicant(s)

LOUBINOX, DOMINIQUE

Examiner

Jeff H. Aftergut

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 July 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 17 and 19-51 is/are pending in the application.
- 4a) Of the above claim(s) 32-36 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 17, 19-31 and 37-51 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Claim Rejections - 35 USC § 102/103

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. Claims 37-42 and 48-51 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over O'Connor for the same reasons as expressed in paragraph 3 of the Office action dated April 16, 2004.

With regard to the amendment to the claims to recite that the first bundle of threads was fed unidirectionally in a first direction, it should be noted that the reference to O'Connor suggested that one skilled in the art at the time the invention was made would have formed the fabric on a commercial weaving loom. One would have understood that a commercial loom included a warp of fibers fed unidirectionally in the machine direction and that the weft was inserted into the warp and interwoven into the same transverse to the warp of fibers as such is the make up of a conventional weaving loom. It should be noted that Figure 1 of the disclosure herein employed a conventional, commercial loom and that the fibers were in fact fed unidirectionally. Additionally, the applicant is advised that those skilled in the art would have been expected to feed the fibers of the warp unidirectionally in the process manufacture direction as such is conventional of a weaving operation. It would have been obvious to one of ordinary skill in the art at the time the invention was made to employ a conventional weaving means such as that commercially available as suggested by O'Connor wherein the fibers of the warp were fed in the machine direction to facilitate insertion of the weft during the weaving operation in the process of making a composite fabric.

With regard to claim 38, note that O'Connor suggested the weaving operation. Regarding claims 48 and 39, see example II where O'Connor suggested that subsequent to the application of heat and pressure in a heated press the composite was placed in a press at room temperature and subjected to additional pressure, see column 5, lines 10-24. Regarding claim 40 and 49, note that the composites in O'Connor were formed solely from the woven fabric therein as exemplified in example I, for example. Regarding claims 41, 42, 50 and 51, the reference to O'Connor suggested at column 3, lines 52-61 that it was known to weave a thermoplastic yarn with a reinforcing yarn in the manufacture of the composite fabric. One must have been the warp and one must have been the weft. As described the reference to O'Connor clearly envisioned the use of the continuous reinforcing yarns as well as the continuous organic (thermoplastic) yarns for either the warp or the weft (the lap of threads of the claims).

3. Claims 17, 19-21, 29-31, 40-42 and 45-47 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Whisler et al '262 for the same reasons as previously presented in the Office action dated April 16, 2004, paragraph 6.

The applicant has amended the claims to recite that there are fibers which are fed unidirectionally in the machine direction in the operation. The applicant is referred to the Office action dated April 16, 2004 where it was stated that:

"As an alternative to using this film 142 which was fed in the machine direction, the reference to Whisler '262 suggested that those skilled in the art at the time the invention was made would have understood that commingled fibers of glass and plastic would have been a suitable alternative, see column 8, line 52-column 9, line 10."

The reference made it clear that unidirectional commingled strands could be fed in the machine direction ("It is further contemplated that reinforcing fibers (not shown) could be provided which

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are located in the machine direction, designated by arrow 300 in FIG. 4, which is generally parallel to a longitudinal axis of the form 30. It is also contemplated that polymer strands formed from a polymeric material such as one of the materials set out above from which the film material 142 is formed, could run in the machine direction 300 and could be used in place of or in addition to the film materials 142, 184, 186. It is additionally contemplated that commingled reinforcing and polymer fiber strands or reinforcing fibers coated with a polymeric material could be positioned in the machine direction 300 and used in place of or in addition to the film materials 142, 184, and 186.”). The applicant is advised that replacement of the polymer film 142 with unidirectionally disposed commingled fibers which were fed in the machine direction was suggested by Whisler ‘262.

Regarding claims 40 and 45, the applicant is advised that one viewing the reference to Whisler ‘262 would have understood that various layers would have been capable of being added in the finished assembly and that the composite material need not include the use of the thermoplastic films disclosed therein. Regarding claim 41 and 46, note that the reference to Whisler ‘262 suggested that the strands 20 applied on the form were continuous reinforcing strands, see column 3, lines 50-54. Regarding claims 42 and 47, note that the reference suggested that suitable strand material for strands 20 included strands of polymeric material (organic), see column 7, lines 35-38.

4. Claims 17, 19-24, 29-31, 40-42 and 45-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Whisler et al ‘262 in view of Woodside et al ‘643 optionally further taken with Vane for the same reasons as presented in the Office action mailed April 16, 2004, paragraph number 8.

Applicant is referred to paragraph 3 above for a discussion of the unidirectional feed of fibers in the machine direction as well as the discussion of the added new claimed.

5. Claims 25-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over the references as set forth above in paragraph 4 further taken with either one of O'Connor or PCT WO 97/26397 for the same reasons as expressed in the Office action mailed April 16, 2004, paragraph 9.

6. Claim 37-42 and 48-51 are rejected under 35 U.S.C. 103(a) as being unpatentable over O'Connor further taken with any one of Curzio, Kent et al, Holliday or McMahon et al for the same reasons as expressed in paragraph number 10 of the Office action mailed April 16, 2004.

With regard to the newly added claims, applicant is referred to paragraph 2 above for a complete discussion of the same.

7. Claims 43 and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over the references as set forth above in paragraph 6 further taken with Whisler et al '262 and U.K. 2,067,612 (newly cited).

O'Connor suggested that one skilled in the art at the time the invention was made would have formed a fabric from woven commingled fibers, however there is no indication that those skilled in the art would have associated with the fabric another layer of material which was formed from fibers and fed in the machine direction during manufacture. The reference to Whisler et al '262 as discussed at length in the previous Office action as well as above assembled a lap of fibers to unidirectionally disposed fibers (which were used in place of layer 142 of thermoplastic polymeric material and additionally suggested that fiber layers would have been suitably for application on either side of the assembly as layers of plastic 184, 186 were

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disclosed as being suitable fiber layers as well. Clearly, as a function of the desired finished properties, one skilled in the art would have understood that an additional fiber layer would have been associated with the unidirectionally woven warp and lap of fibers of O'Connor. To further evidence that one skilled in the art at the time the invention was made would have included a unidirectional layer of fibers in association with a woven layer, the reference to U.K. '612 is cited. U.K. '612 expressly suggested that those skilled in the art at the time the invention was made would have formed a fabric for reinforcing fibers which were coated with polymer, see Fig. 3B (note that Whisler suggested such as an alternative to utilizing thermoplastic fibers in the weave and one skilled in the art would have understood that instead of coating the fibers with thermoplastic that thermoplastic matrix fibers would have suitably been incorporated in the fabric in place of this coating). The reference to U.K. '612 suggested that multiple layers of these fabrics along with unidirectionally disposed fibers can be assembled together for form a composite, see Figures 5A and 6. Clearly, as a function of the desired finished properties of the composite laminate, it would have been obvious to one of ordinary skill in the art at the time the invention was made to associate a unidirectional layer of material with the woven fabric of O'Connor as was suggested by Whisler et al '262 and U.K. 2.067,612 in the process of making a composite fabric for a fiber reinforced composite article.

Regarding claim 44, note that O'Connor suggested that one skilled in the art at the time the invention was made would have applied pressure to the assembly after heating.

Response to Arguments

8. Applicant's arguments filed July 9, 2004 have been fully considered but they are not persuasive.

The applicant argues that the reference to Whisler '262 that the Figures there is completely different from the claimed invention. Applicant is advised that the filaments in Whisler '262 were described as being disposed at an angle of 87 degrees (see column 6, lines 17-29) for those filaments disposed transverse to the machine direction, while the reference suggested that the polymeric film material 142 was fed in the machine direction. As noted above, this polymeric film material 142 was described in an embodiment not depicted in Whisler '262 as being replaced with commingled filaments which were disposed unidirectionally (in the machine direction). Applicant was advised of this in the last Office action and it is reiterated above.

Applicant is advised regarding claims 38 and 43 that the reference to O'Connor clearly suggested that one skilled in the art would have woven the layers together and applicant's response does not address the reference to O'Connor at all. It is therefore believed that applicant agrees with the Office interpretation that the reference suggested a loom of the conventional type for forming the woven fabric and that such would have included looms of the type described by applicant. Additionally, applicant is advised that a loom typically has fibers which run in the machine direction during the weaving operation (i.e. a warp of fibers) into which the weft is interwoven. Applicant's arguments regarding claims 38 and 43 are not persuasive.

Regarding the additional claims added by the amendment, applicant is referred to the discussion above regarding the prior art and why one skilled in the art at the time the invention was made would have been led to practice the same.

No claims are allowed.

Election/Restrictions

9. This application contains claims 32-36 drawn to an invention nonelected with traverse in the reply filed on 12-15-03. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.
10. Claims 32-36 have been withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 12-15-03.

Conclusion

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeff H. Aftergut whose telephone number is 571-272-1212. The examiner can normally be reached on Monday-Friday 7:15-345 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Blaine Copenheaver can be reached on 571-272-1156. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Jeff H. Aftergut
Primary Examiner
Art Unit 1733

JHA
July 29, 2004